

**Exhibit A**  
**Model Water Treatment Plan**

## 1.0 MODEL WATER TREATMENT PLAN

In 2009, E. I. du Pont de Nemours and Company (“DuPont”) and the United States Environmental Protection Agency (“EPA”) entered into an Administrative Order on Consent (the “2009 Consent Order”) regarding the presence of perfluorooctanoic acid (“PFOA”) in certain drinking water supplies. As contemplated in the 2009 Consent Order, DuPont conducted several phases of surveying and sampling of public and private drinking water wells for PFOA in the vicinity of the Washington Works facility located in Wood County near Parkersburg, West Virginia. Over 450 drinking water wells located in West Virginia and Ohio in the vicinity of the Washington Works facility have been sampled for PFOA. In addition, DuPont offered granular activated carbon (“GAC”) water treatment technology or a functionally equivalent alternative (as determined by DuPont and approved by EPA) to residents with private water systems containing PFOA at concentrations equal to or greater than 0.40 micrograms per liter (“µg/L”) or parts per billion (“ppb”). This level of PFOA corresponds to the Provisional Health Advisory value for PFOA established by EPA in 2009.

The Chemours Company (“Chemours”) now owns the Washington Works facility. Based on current science and changed circumstances, as well as new, site-specific information and the issuance by EPA on May 19, 2016, of a Lifetime Health Advisory value for PFOA of 0.07 ppb, EPA and DuPont have decided to amend certain provisions of the 2009 Consent Order and to add Chemours as a party to the 2009 Consent Order. Under the 2009 Consent Order as amended, Chemours is, among other things, offering to install GAC water treatment technology or a functionally equivalent alternative (as determined by Chemours and approved by EPA) for public and private water systems where validated sampling results show that PFOA is present at concentrations greater than 0.07 ppb.

This Model Water Treatment Plan has been developed to describe the manner in which treatment of drinking water at qualified locations will be implemented consistent with the requirements of the 2009 Consent Order as amended. Consistent with the requirements of Paragraph 42 of the 2009 Consent Order as amended, model water treatment plans for GAC treatment and for alternative treatment for both private and public water systems are described in the sections that follow. DuPont and Chemours are identified as Respondents in the 2009 Consent Order as amended. While this Model Water Treatment Plan describes actions that Chemours expects to take, references herein to Chemours should be understood to include DuPont if DuPont is implementing the provisions of the Model Water Treatment Plan pursuant to the 2009 Consent Order as amended. If any provision of this Model Treatment Plan conflicts with any provision in the 2009 Consent Order as amended, the 2009 Consent Order as amended will control.

EPA divides public water systems into “community water systems” and “non-community water systems.”<sup>1</sup> Typically, large public water supply systems qualify as community

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<sup>1</sup> EPA’s regulations implementing the Safe Drinking Water Act define a public water system as “a system for the provision to the public of water for human consumption through pipes or, after August 5, 1998, other constructed conveyances, if such system has at least fifteen service connections or regularly serves an average of at least twenty-five individuals daily at least 60 days out of the year.” 40 C.F.R. § 141.2. EPA further divides public water systems into two categories referred to as “community water systems” and “non-community water systems.” A “community water system” is defined as “a public water system which serves at least 15 service connections used by

water systems and smaller public water systems (such as businesses, restaurants and churches) qualify as non-community water systems. Non-community water systems are further classified by EPA as non-transient non-community water systems (“NTNCWSs”) and transient non-community water systems (“TNCWSs”). If validated data show that PFOA is present in a non-community water system at a concentration exceeding 0.07 ppb, thereby qualifying the non-community water system for GAC treatment or a functionally equivalent alternative (as determined by Chemours and approved by EPA), the non-community water system, whether an NTNCWS or a TNCWS, may be addressed in the same manner as a private water system. For example, a drinking water well at a gas station or church may be treated as if it is a private drinking water well for purposes of this Model Water Treatment Plan even if it otherwise qualifies as an NTNCWS or a TNCWS. The Model Water Treatment Plan covers both community and non-community water systems, as described below. References herein to private water systems shall be understood to include non-community water systems that are being addressed as if they are private water systems.

The Model Water Treatment Plan for private water systems (including non-community water systems) where GAC treatment is offered pursuant to the 2009 Consent Order as amended is described below in Section 2.0. The Model Water Treatment Plan for private water systems (including non-community water systems) where an EPA-approved alternative to GAC treatment is offered is described below in Section 3.0. The basic elements of the Model Water Treatment Plan for installation of GAC treatment at a public water system qualifying as a community water system are described below in Section 4.0. Each community public water system that qualifies for treatment is likely to be unique. Therefore, a system-specific water treatment plan will be developed for each community public water system that qualifies for GAC treatment under the 2009 Consent Order as amended. These system-specific plans will be developed after the needed information from each system is acquired. The process that will be followed if an alternative form of treatment for a community public water system is proposed is presented in Section 5.0.

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year-round residents or regularly serves at least 25 year-round residents.” 40 C.F.R. § 141.2. A “non-community water system” means a public water system that is not a community water system and that is either a transient non-community water system or a non-transient non-community water system. 40 C.F.R. § 141.2. Both of the subcategories of non-community water systems are further defined by EPA. A “transient non-community water system” is “a non-community water system that does not regularly serve at least 25 of the same persons over six months per year” while a “non-transient non-community water system” is “a public water system that is not a community water system and that regularly serves at least 25 of the same persons over 6 months per year.” 40 C.F.R. § 141.2.

## 2.0 PRIVATE WATER SYSTEMS – GAC TREATMENT

The 2009 Consent Order as amended requires that additional surveying and sampling be conducted of private water systems. For each private water system that is sampled where validated sampling results for PFOA are greater than 0.07 ppb and GAC treatment is offered, Chemours (or its authorized representative) will follow the elements of the Model Water Treatment Plan described below. This Model Water Treatment Plan consists of a series of steps that must be completed sequentially. The outcomes of the specific steps will be communicated to EPA by documentation in spreadsheets provided to EPA and in the quarterly progress reports that are to be submitted to EPA as the steps are completed. Copies of the quarterly progress reports are also being submitted to the West Virginia Department of Health and Human Resources (“WVDHHR”), the West Virginia Department of Environmental Protection (“WVDEP”), the Ohio Department of Health (“ODH”) and the Ohio Environmental Protection Agency (“OEPA”). The same process will be used for non-community water systems that are being addressed in the same manner as private water systems.

### 2.1 Step One – Documentation

The first step in the Model Water Treatment Plan for installation of a GAC treatment system at a private water system that has been determined to be eligible for treatment consists of sending to the owner of the private water system<sup>2</sup> a letter presenting the final results of sampling of the private water system and confirming that the private water system is qualified for treatment. A typical form of such a letter is included in Attachment 1. Once the letter presenting the sampling results is mailed to the owner of the private water system and a copy of the letter is sent to EPA, a Chemours representative will contact the owner of the private water system, explain that the private water system is qualified for treatment and make the offer of GAC treatment at no cost to the owner.

Chemours (or its authorized representative) may, at its discretion, upon receipt of draft sampling results and completion of internal data review, contact the owner of a private water system that is qualified for GAC treatment and verbally make the offer for installation of a GAC treatment system based on the reviewed draft sampling results. In this situation, the final validated sampling results will be mailed to the owner of the private water system when available.

If a private water system owner accepts the offer of GAC treatment, Chemours (or its authorized representative) will notify EPA in spreadsheets and provide documentation in the subsequent quarterly progress report to be submitted to EPA (with copies to WVDHHR, WVDEP, ODH and OEPA). If a private water system owner chooses to decline the offer of GAC treatment from Chemours, Chemours (or its authorized representative) will request signed confirmation of the decision by the owner to decline GAC treatment (see Attachment 1), will notify EPA of the decline of the offer, and will

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<sup>2</sup> In situations where the person using the private water system is not the private water system owner (e.g., the tenant in a rental property), all documentation will be sent to and must be signed by the private water system owner. The owner in turn can share the information with the tenant, as appropriate. The private water system owner may also allow for direct communication with the tenant on his behalf if he chooses to do so and notifies Chemours (and/or its authorized representative).

provide documentation in spreadsheets and in the subsequent quarterly progress report to be submitted to EPA (with copies to WVDHHR, WVDEP, ODH and OEPA). If the private water system owner declines the offer of GAC treatment, Chemours will place the name of the owner on a list being maintained by Chemours of public and private systems that declined or did not respond to offers of temporary or permanent alternate drinking water supplies (the "Decline and Non-Response List"), and will contact such owner on an annual basis within 30 days after the effective date of the 2009 Consent Order as amended to seek such owner's current response to the offer of provision of GAC treatment. Chemours will update the Decline and Non-Response List as new information becomes available and will include the current version of the Decline and Non-Response List with each quarterly progress report to be submitted to EPA (with copies to WVDHHR, WVDEP, ODH and OEPA).

If a private water system owner does not respond to the offer for treatment within 30 days after the offer is made, Chemours (or its authorized representative) will send a follow-up letter and repeat the offer. If the private water system owner does not respond to the second offer letter within 45 days after the initial offer is made, Chemours (or its authorized representative) will notify EPA within 10 additional days and will consider the owner of the private water system to have declined the offer of GAC treatment by virtue of a non-response. Chemours will provide supporting information to EPA in spreadsheets and in the subsequent quarterly progress report to be submitted to EPA (with copies to WVDHHR, WVDEP, ODH and OEPA). In addition, Chemours will place the name of the owner on the Decline and Non-Response List that Chemours is maintaining, and will contact such owner on an annual basis within 30 days after the effective date of the 2009 Consent Order as amended to seek such owner's current response to the offer of provision of GAC treatment.

## **2.2 Step Two – Interview and System Design**

Upon verbal acceptance of the offer of GAC treatment, the second step of the Model Water Treatment Plan will be implemented. As part of this second step, Chemours (and/or its authorized representatives) will schedule and conduct an interview with the owner of the private water system that has been determined to be eligible for GAC treatment. The purpose of this interview is to discuss with and have the owner sign the Granular Activated Carbon Treatment System Installation, Operation, and Maintenance Agreement (a copy of which is included in Attachment 2) and fill out the Private Well Questionnaire (a copy of which is included in Attachment 3) which will identify any specific conditions at or within the residence using the private water system that may require a modification of the typical GAC treatment system design. The typical GAC treatment system is described in Figure 1 and consists of two carbon tanks (beds) in series (referred to as Bed 1 and Bed 2) with sampling ports located before Bed 1 (the prior-to-treatment sampling location or "PT"), after Bed 1 (the Bed 1 sampling location or "Bed 1") and after Bed 2 (the Bed 2 sampling location or "Bed 2"). The "Bed 2" sampling port allows for sampling of the treated water that is used in the residence or other location being supplied by the private water system. If a significant design modification from the typical GAC treatment system is required based on the information obtained during the interview, Chemours (and/or its authorized representatives) will provide supporting documentation regarding the design modification in the subsequent quarterly progress report to be submitted to EPA (with copies to WVDHHR, WVDEP, ODH and OEPA).

## 2.3 Step Three – Geochemical/Biological Parameters Sampling and Permitting

In the third step of implementing the Model Treatment Plan for a private water system where GAC treatment is planned to be installed, Chemours (and/or its authorized representatives) will resample the private water system and analyze the water samples for iron, manganese, and total suspended solids. The results of these analyses for geochemical parameters will be used to determine if additional design modifications to the GAC system are required based on the chemistry of the well water. In addition, based on requirements imposed by ODH as discussed below, water samples from a private water system in Ohio that is eligible for a GAC treatment system will be analyzed for total coliform.

Upon receipt and evaluation of the analytical results for geochemical parameters from a private water system located in West Virginia and a determination that installation of a GAC treatment system is feasible, the private water system will be added to the GAC treatment system installation schedule. However, if the private water system is located in Ohio, a permit to install the GAC treatment system must first be obtained from ODH and the local health department (“LHD”). A copy of the application form for a permit from ODH and the LHD to install a GAC treatment system is included in Attachment 4. Chemours (and/or its authorized representatives) will begin the process of obtaining the required permit for installation of the GAC treatment system once the analytical results for geochemical parameters and total coliform have been obtained. ODH requires that concentrations of total coliform in the untreated water be below the criteria established by ODH before installation of the GAC treatment system can take place. If concentrations of total coliform are reported in the water samples from the private water system at levels above the criteria established by ODH, disinfection procedures, as recommended by ODH, are required to be conducted by the private water system owner or the Chemours representative until concentrations of total coliform are below detection limits in the water from the private water system. A copy of a fact sheet issued by ODH describing procedures to disinfect wells containing total coliform is included in Attachment 5. Following receipt of the necessary permit from ODH and the LHD, the private water system will be added to the GAC treatment system installation schedule.

Chemours will act to initiate design of the GAC treatment system and seek necessary regulatory permits to facilitate installation of the GAC treatment system within 30 days after receiving validated data from the private water system showing that the private water system is qualified for installation of a GAC treatment system.

## 2.4 Step Four – System Installation

In general, for a private water system located in West Virginia using a typical GAC treatment system, it takes approximately one week to complete the installation of the GAC treatment system from the point in time at which Chemours (and/or its authorized representatives) has received a signed operation and maintenance agreement and a completed private well questionnaire from the owner of the private water system and has completed an interview with the owner of the private water system. In general, for a private water system located in Ohio using a typical GAC treatment system, it takes

approximately two weeks from the same starting point to install a typical GAC treatment system due to the need to obtain a permit from ODH and the LHD for installation of the system. However, scheduling the interview with the owner of the private water system, getting necessary paperwork in place and obtaining access to the residence (or similar location in the case of a non-community water system) for the installation of the GAC treatment system can significantly extend the total time necessary to complete an installation, particularly if a large number of locations are on the GAC treatment system installation schedule. In addition, if design modifications are required for any reason, including, but not limited to, the configuration of the existing water source or the water system having multiple water sources, or if disinfection of the well is needed, additional delays may be encountered that are beyond Chemours' control prior to installation of the GAC treatment system.

Upon completion of installation of a GAC treatment system, Chemours will notify EPA and either WVDHHR and WVDEP (for a GAC treatment system installed in West Virginia), or ODH and OEPA (for a GAC treatment system installed in Ohio) of the installation by documentation in spreadsheets and in the quarterly progress reports that are to be submitted to EPA (with copies to WVDHHR, WVDEP, ODH and OEPA). In addition, upon installation of the GAC treatment system, the provision of a temporary alternate drinking water supply for the private water system will be terminated.

## **2.5 Step Five – Operation and Maintenance**

Following installation of a GAC treatment system, Chemours (and/or its authorized representatives) will begin to conduct post installation monitoring of the GAC treatment system as described below.

Quarterly monitoring of a GAC system will focus on the lead carbon bed or "Bed 1" water sample. Water samples collected as part of post installation monitoring will be analyzed for PFOA. The water samples will be collected as described in the Revised Perfluorooctanoic Acid Quality Assurance Project Plan for the DuPont Corporate Remediation Group (URS, 2014), which is currently being updated. When the analytical results from the lead carbon bed or "Bed 1" water sample indicate that PFOA is present at a concentration of 0.015 ppb or greater, Chemours (and/or its authorized representatives) will perform a carbon bed changeout. During the carbon bed changeout process, Bed 1 is removed, Bed 2 is moved to the Bed 1 position and a new activated carbon tank is installed in the Bed 2 position. Carbon beds will also be replaced if either Bed 1 or Bed 2 has been operational for five years without having been replaced.

Once a year, a "PT" water sample (untreated water from the private water system) will also be collected. This annual sampling will typically be conducted during the third quarter of each year. If the concentration of PFOA in the "PT" water sample is 0.07 ppb or less for two consecutive annual sampling events, then the "PT" water sampling frequency may change from annually to quarterly to demonstrate to the satisfaction of EPA that the levels of PFOA in the source water for the private water system are 0.07 ppb or less for four consecutive quarters and GAC treatment can be terminated.

Chemours will provide for operation and maintenance ("O&M") of the GAC treatment system consistent with the specific terms of the Granular Activated Carbon Treatment

System Installation, Operation, and Maintenance Agreement until Chemours demonstrates to the satisfaction of EPA that the private water system's source water prior to treatment contains PFOA at concentrations equal to or less than 0.07 ppb for four consecutive quarters thereby allowing GAC treatment to be terminated. Following termination of GAC treatment, Chemours will conduct annual monitoring of the source water for the private system for five years. All monitoring data for GAC treatment systems will be documented in the quarterly progress reports that are to be provided to EPA.



### 3.0 PRIVATE WATER SYSTEMS - ALTERNATIVE TREATMENT

For some private water systems where validated sampling results show that PFOA is present at concentrations greater than 0.07 ppb, a functionally equivalent alternative to installation of a GAC treatment system may be offered by Chemours, if approved by EPA. Connection to a public water system containing PFOA at concentrations equal to or less than 0.07 ppb in finished water is the most commonly offered form of alternative treatment. For locations where connection of a private water system to a public water system containing PFOA at concentrations equal to or less than 0.07 ppb in finished water will be offered as an alternative to installation of a GAC treatment system, Chemours will notify EPA and obtain EPA's approval prior to offering the owner of the private water system connection to the public water system. If an alternative other than connection to a public water system is offered, Chemours will notify EPA and obtain approval prior to offering the alternative to the owner of the private water system.

The first step in the Model Water Treatment Plan for connection of a private water system to a public water system containing PFOA at concentrations equal to or less than 0.07 ppb in finished water consists of sending to the owner of the private water system<sup>3</sup> a letter presenting the results of sampling of the private water system and confirming that the private water system is qualified for treatment (see Attachment 1). Once the letter presenting the sampling results is mailed to the owner of the private water system and a copy of the letter is sent to EPA, a Chemours representative will contact the owner of the private water system, explain that the private water system is qualified for treatment and make the offer to connect the private water system to a public water system containing PFOA at concentrations equal to or less than 0.07 ppb in finished water at no cost to the owner.

Chemours (or its authorized representative) may, at its discretion, upon receipt of draft sampling results and completion of internal data review, contact the owner of a private water system that is qualified for alternative treatment and verbally make the offer of alternative treatment based on the reviewed draft sampling results. In this situation, the final validated sampling results will be mailed to the owner of the private water system when available.

If a private water system owner chooses to decline the alternative treatment offer from Chemours, Chemours (or its authorized representative) will request signed confirmation of the decision by the owner to decline the offer (see Attachment 1), will notify EPA of the decline of the offer, and will provide documentation in spreadsheets and in the subsequent quarterly progress report to be submitted to EPA (with copies to WVDHHR, WVDEP, ODH and OEPA). Chemours will also place the name of the owner of the private water system on the Decline and Non-Response List and will contact such owner on an annual basis within 30 days after the effective date of the 2009 Consent Order as amended to seek such owner's current response to the offer of alternative treatment.

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<sup>3</sup> As previously noted, in situations where the person using the private water system is not the private water system owner (e.g., the tenant in a rental property), all documentation will be sent to and must be signed by the private water system owner. The owner in turn can share the information with the tenant, as appropriate. The private water system owner may also allow for direct communication with the tenant on his behalf if he chooses to do so and notifies Chemours (or its authorized representative).

If a private water system owner does not respond to the offer for alternative treatment within 30 days after the offer is made, Chemours (or its authorized representative) will send a follow-up letter and repeat the offer. If the private water system owner does not respond to the second offer letter within 45 days after the initial offer is made, Chemours (or its authorized representative) will notify EPA within 10 additional days and will consider the owner of the private water system to have declined the offer by virtue of a non-response. Chemours will provide supporting documentation to EPA in spreadsheets and in the subsequent quarterly progress report to be submitted to EPA (with copies to WVDHHR, WVDEP, ODH and OEPA). In addition, Chemours will place the name of the owner on the Decline and Non-Response List that Chemours is maintaining, and will contact such owner on an annual basis within 30 days after the effective date of the 2009 Consent Order as amended to seek such owner's current response to the offer of provision of alternative treatment.

If the offer of connection to a public water system containing PFOA at concentrations equal to or less than 0.07 ppb in finished water is verbally accepted, Chemours will provide to the owner of the private water system a copy of the Public Water Connection Agreement contained in Attachment 6 for the owner to sign. Upon receipt of a Public Water Connection Agreement signed by the private water system owner, Chemours (and/or its authorized representatives) will act with deliberate speed to connect the private water system to the public water system. Upon connection to the public water system, the provision of a temporary alternate drinking water supply for the private water system will be terminated.

## 4.0 PUBLIC WATER SYSTEMS – GAC TREATMENT

As previously discussed, public water systems are classified by EPA either as “community water systems” or “non-community water systems.” For purposes of the Model Water Treatment Plan, non-community water systems will typically be addressed in the same manner as private water systems. This section of the Model Water Treatment Plan focuses on public water systems that qualify as community water systems as defined by EPA.

If validated sampling results indicate that PFOA is present at concentrations exceeding 0.07 ppb in finished water supplies from a public water system that is a community water system and that is subject to the 2009 Consent Order as amended, the public water system will be qualified to receive an offer of GAC treatment. Assuming that an offer of GAC treatment is made to and accepted by the public water system, the steps set forth below will generally be completed in a sequential manner. Chemours anticipates that GAC treatment will be installed at all public water systems identified under the 2009 Consent Order as amended as requiring treatment. The Model Water Treatment Plan will have to be modified to match the specific site conditions identified at each public water system qualified for treatment. In addition, because public water systems vary in size and have differing numbers of production wells, the specific tasks required for installation of GAC treatment for a public water system may not be the same for each GAC treatment system that is installed. Therefore, the tasks listed below may not be completed for some public water systems and may include items not required for others:

- ☐ Collect an 18 gallon sample and conduct an Accelerated Column Test (“ACT”)
- ☐ Prepare concept and preliminary designs of the GAC treatment system for review with the owner of the public water system
- ☐ Prepare final design of the GAC treatment system for approval by the owner of the public water system
- ☐ Prepare final design of GAC treatment system for state permit application (OEPA or WVDHHR)
- ☐ Prepare application for submission to the West Virginia Public Service Commission (“PSC”) (West Virginia locations only)
- ☐ Obtain permit approvals (and PSC approval for facilities in West Virginia)
- ☐ Request bids from construction contractors
- ☐ Review bids and award construction contract
- ☐ Obtain approvals from water boards and signed access/O&M agreements from the owner of the public water system
- ☐ Mobilize for construction work
- ☐ Construction of GAC treatment system
- ☐ Start-up of GAC treatment system
- ☐ Site restoration
- ☐ Demobilization
- ☐ Turn over facility to owner of public water system for operation

Where a public water system subject to the 2009 Consent Order as amended is identified that has PFOA present in finished water supplies at concentrations greater than 0.07 ppb based on validated sampling results and is therefore qualified to receive GAC treatment, Chemours will provide a public water system-specific draft Model Water Treatment Plan to EPA that will identify the required tasks for installation of GAC

treatment at that public water system. This public water system-specific draft Model Water Treatment Plan will be provided to EPA within 30 days after completion of the validation of the sampling results that show that the public water system is qualified to receive GAC treatment.

Following installation of a GAC treatment system for a public water system, Chemours will notify EPA, and either WVDHHR and WVDEP (for a GAC treatment system installed in West Virginia), or ODH and OEPA (for a GAC treatment system installed in Ohio) of the installation. Completion of the installation of the GAC treatment system will be documented in the quarterly progress reports that are to be submitted to EPA (with copies to WVDHHR, WVDEP, ODH and OEPA). Upon installation of the GAC treatment system, Chemours (and/or its authorized representatives) will collect a confirmation sample to demonstrate proper operation of the newly installed GAC treatment system and the removal of PFOA to a concentration at or below 0.07 ppb. Following receipt of a validated sample confirming the proper operation of a newly installed GAC treatment system, the provision of a temporary alternate drinking water supply for the public water system will be terminated. In addition, post installation O&M monitoring of the GAC treatment system will be conducted, as described below.

Post installation O&M monitoring (typically on a monthly or quarterly basis) will be conducted as required by OEPA or WVDHHR, as applicable. Monitoring of a public water system's GAC treatment system will consist of collecting a pre-treatment ("PT") water sample and two after-treatment water samples designated "lead" and "lag," representing the sample port after the lead carbon bed and the second, or lag, carbon bed, respectively. If the system consists of more than one treatment train, the "lead" and "lag" ports will be sampled for all the treatment trains. The water samples will be analyzed for PFOA. The water samples will be collected as described in the Revised Perfluorooctanoic Acid Quality Assurance Project Plan for the DuPont Corporate Remediation Group (URS, 2014) which is currently being updated.

If PFOA is detected at a concentration of 0.015 ppb or greater in the "lag" water sample obtained from the sample port after the lag carbon bed, the carbon bed will be replaced. If the GAC treatment system consists of two pairs of lead/lag carbon beds in parallel, a changeout will take place even if the foregoing criterion is reached in only one of the lag beds. Once PFOA has been detected at a concentration in the water sample(s) from the lag bed(s) equal to or greater than 0.015 ppb, the carbon in the lead bed(s) will be replaced, the lag bed(s) will be moved into the lead bed position, and the bed(s) with the replaced carbon will be moved into the lag bed(s) position.

Chemours will provide for O&M of the GAC treatment system consistent with the specific terms of the O&M agreement with the owner of the public water system until Chemours demonstrates to the satisfaction of EPA that the public water system's source water prior to treatment contains PFOA at concentrations equal to or less than 0.07 ppb for four consecutive quarters thereby allowing GAC treatment be terminated. Following termination of GAC treatment, Chemours will conduct annual monitoring of the source water for the public water system for five years.

Chemours will provide EPA with the installation status of each public water system that qualifies for GAC treatment in the quarterly progress reports that are to be submitted to EPA.

## **5.0 PUBLIC WATER SYSTEMS – ALTERNATIVE TREATMENT**

A public water system that is a community water system and qualifies for treatment pursuant to the 2009 Consent Order as amended may be addressed through an alternative other than treatment using a GAC treatment system. For example, such a public water system might be connected to another public water system containing PFOA at concentrations equal to or less than 0.07 ppb in finished water. The circumstances where such an alternative may be proposed will necessarily involve a variety of site-specific factors. Should Chemours wish to propose the use of an alternative form of treatment, it will provide EPA with a site-specific Water Treatment Plan for EPA's approval describing the alternative form of treatment and the manner in which the alternative form of treatment will be implemented.

## **Figure 1**

### **Typical Residential Granular Activated Carbon (GAC) Treatment System Design**

GAC treatment system to be installed into existing residential water system.  
North American Aqua Model WHS-400 or WHS-200.

Includes:

- Two 13" x 54" wrapped fiberglass carbon filtration tanks.
- Each tank contains 110 pounds Calgon Fitratorb 600 20x50 mesh (primary absorber and polisher).
- 3 Sampling ports, pre filtration (PT), intermediate (Bed 1) & final effluent (Bed 2).
- 50 micron pre filter assembly for particulate removal.
- Totalizing flow meter.
- Any associated piping, fittings to plumb system into home plumbing.
- All new copper to be used.
- Outside applications would include weatherproof housing.

Picture: Activated Carbon Unit Model #WHS-400EPA from North American Aqua, Inc.  
Model used will be determined by space available at residence.



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**TYPICAL GAC TREATMENT  
DESIGN SYSTEM**

**CHEMOURS WASHINGTON WORKS  
WASHINGTON, WEST VIRGINIA**

PROJECT NO. 60501962
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DATE 6/1/16
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FIGURE No:
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**1**

## **Attachment 1**

### **Example Private Drinking Water Well Result Letter**



Date

Name

Address

City, State, Zip code

### **Drinking Water Well Sampling Results**

Dear Name:

In 2009, E. I. du Pont de Nemours and Company (DuPont) and the United States Environmental Protection Agency (EPA) entered into a Consent Order regarding the presence of perfluorooctanoic acid (PFOA) in certain drinking water supplies. As contemplated in the Consent Order, DuPont conducted several phases of surveying and sampling of public and private drinking water wells for PFOA in the vicinity of the Washington Works facility located in Wood County near Parkersburg, West Virginia. In addition, DuPont offered granular activated carbon (GAC) water treatment technology or a functionally equivalent alternative (as determined by DuPont and approved by EPA) to residents with private water systems containing PFOA at concentrations equal to or greater than 0.40 micrograms per liter ( $\mu\text{g/L}$ ) or parts per billion (ppb). This level of PFOA corresponds to the Provisional Health Advisory for PFOA established by EPA in 2009.

On May 19, 2016, EPA issued a Lifetime Health Advisory value for PFOA of 0.07 ppb based on information in a document entitled *Health Effects Support Document for Perfluorooctanoic Acid (PFOA)* (EPA, 2016). Health advisories apply to substances that are not subject to national primary drinking water regulations under the Safe Drinking Water Act and serve as informal technical guidance to assist federal, state and local officials, and managers of public or community water systems by providing information on the health effects of and methods to sample and treat the substances in drinking water for which health advisories are established. In this case, the Lifetime Health Advisory value for PFOA issued by EPA is intended to be protective of both individuals consuming drinking water containing PFOA over a 70-year period (i.e., lifetime exposure) and pregnant women and breast and bottle-fed infants over shorter time periods.

In light of the foregoing, The Chemours Company (Chemours), which now owns the Washington Works facility, [INSERT, AS APPROPRIATE, A DESCRIPTION OF PRIOR COMMUNICATIONS AND SAMPLING PROGRAM.] With your consent, Chemours arranged for your drinking water well to be sampled for PFOA.

Attached please find the analytical result for PFOA obtained from the sampling that was recently completed of your drinking water well. Because the results show that PFOA was detected at a concentration greater than 0.07  $\mu\text{g/L}$ , your drinking water well is eligible for GAC treatment or a functionally equivalent alternative (as determined by Chemours and approved by EPA). Chemours' representative Ms. Ali Pearce has already contacted you regarding this result and the offer of treatment.

Should you have any questions regarding the analytical results that are attached, you can contact Ms. Pierce at (304) 588-1524. If you choose to decline the offer of treatment, please sign below and return this letter in the enclosed self-addressed stamped envelope.

Name  
Date  
Page 2

Sincerely,

Andrew S. Hartten  
Principal Remediation Project Manager  
Chemours Corporate Remediation Group

cc: File (508771) (electronic copy)  
Roger Reinhart, EPA Region 3  
Jennifer Wilson, EPA Region 5

I decline the offer of treatment from Chemours.

---

(Owner's Signature and Date of Decline)

## **Granular Activated Carbon Treatment System Installation, Operation, and Maintenance Agreement**

I (we), \_\_\_\_\_, the owner(s) (hereafter referred to as Owner(s)) of the parcel of real estate and improvements located at \_\_\_\_\_ (hereafter referred to as the Property), consent to have The Chemours Company (hereafter referred to as Chemours) and its designated contractor(s) enter on to the Property to install a Granular Activated Carbon Treatment System (hereafter referred to as GAC Treatment System) and connect it to the water supply line running from the Property's well to the primary living space on the Property. In 2009, the United States Environmental Protection Agency (EPA) and E. I. DuPont de Nemours and Company (DuPont) entered into an Order on Consent (the 2009 Consent Order) regarding the presence of perfluorooctanoic acid (PFOA) in certain drinking water supplies at levels exceeding 0.40 micrograms per liter (ug/L). On May 19, 2016, EPA issued a Lifetime Health Advisory value for PFOA of 0.07 ug/L based on information in a document entitled *Health Effects Support Document for Perfluorooctanoic Acid (PFOA)*. EPA, DuPont and Chemours have subsequently amended the 2009 Consent Order through a document referred to as the First Amendment to Order on Consent. Based on the new Lifetime Health Advisory value and pursuant to the 2009 Consent Order as amended, Chemours is now offering installation of granular activated carbon treatment, or an EPA-approved alternative, if the measured concentration of PFOA in the drinking water from a private water system is greater than 0.07 ug/L. Owner(s)' consent for Chemours and its designated contractor(s) to install a GAC Treatment System at the Property is contingent upon the conditions provided below. Fulfillment by Chemours of its obligations specified in this Agreement is also contingent upon the conditions below.

**Condition 1.** Chemours will provide at its cost all construction, labor and materials necessary to install the GAC Treatment System and connect it to the water supply line running from the Property's source water to the primary living space on the Property.

**Condition 2.** Chemours will provide at its cost all labor and materials necessary to restore any damage to improvements on the Property that result from Chemours' work installing the GAC Treatment System and connecting it to the water supply line. Restoration shall consist of returning all improvements on the Property damaged by Chemours during installation of the GAC Treatment System to as near as possible the condition existing on the date that installation and connection activities begin. The Owner(s) agree that in the case of grass that is damaged as part of the construction work, reseeding of the damaged area is acceptable.

**Condition 3.** Chemours will pay for all operation and maintenance of the GAC Treatment System, including timely replacement of the carbon filtering medium, based on the results of quarterly sampling and analysis of water samples from the GAC Treatment System. All operation, maintenance and filter replacement activities will be performed by Chemours' designated contractor(s). Under the terms of the 2009 Consent Order as amended, Chemours will provide for operation and maintenance of the GAC Treatment System until Chemours demonstrates to the satisfaction of EPA that the water system's source water prior to treatment contains PFOA at concentrations less than or equal to 0.07 ug/L for four consecutive quarters. When Chemours' obligation to operate and maintain the GAC Treatment System ends, Chemours will monitor annually the source water at the Property for a period of five (5) years

and Chemours will pay all expenses to remove the GAC Treatment System entirely and return the Property to its condition before the equipment's installation as near as reasonably possible.

**Condition 4.** Chemours will be responsible for personal injury or property damage caused by negligence in the performance of the work described in Conditions 1, 2, and 3 or by malfunction of the GAC Treatment System. Chemours will not be responsible for any damage caused by the Owner(s) negligence or other misconduct.

**Condition 5.** Chemours and its contractor(s) may have access to the Property during normal business hours (Monday through Friday between 8:00 a.m. and 5:00 p.m.) to perform the installation, connection, sampling activities and any necessary restoration activities. When Chemours and its contractor(s) must enter the primary living space, it will seek with the Owner(s) to establish a mutually agreeable time to do so.

**Condition 6.** Owner(s) grant Chemours the authority to obtain at its cost all necessary federal, state, and county permits for completion of the work described above on behalf of Owner(s) as required.

**Condition 7.** Chemours' designated contractor(s) will be licensed, bonded and insured.

Owner(s)' consent is provided on this date, \_\_\_\_\_ by:

\_\_\_\_\_ and \_\_\_\_\_  
Owner(s)' Signature

\_\_\_\_\_ and \_\_\_\_\_  
Owners(s)' Printed Name(s)

Agreed to by Chemours:

Andrew S. Hartten, Principal Remediation Project Manager, representing The Chemours Company  
Printed Name, Title

\_\_\_\_\_  
Chemours Signature

\_\_\_\_\_  
Date

## **Attachment 3**

### **Example Private Well Questionnaire**

## Private Well Questionnaire

Name \_\_\_\_\_ Date \_\_\_\_\_

Location of Well \_\_\_\_\_ County \_\_\_\_\_

Mailing Address \_\_\_\_\_ Health District \_\_\_\_\_

Telephone No. \_\_\_\_\_

What are the pipe sizes and materials for the interior plumbing? \_\_\_\_\_

\_\_\_\_\_

What is the type and horsepower of the well pump? \_\_\_\_\_

\_\_\_\_\_

How deep is the well? \_\_\_\_\_

\_\_\_\_\_

What is the well's depth to the water table? \_\_\_\_\_

\_\_\_\_\_

What is the approximate location of the well? \_\_\_\_\_

\_\_\_\_\_

Where is the existing pressure tank located? \_\_\_\_\_

\_\_\_\_\_

What is the existing water pressure in the house (if known from pressure tank setting)?

\_\_\_\_\_

Does the house have a basement? \_\_\_\_\_

\_\_\_\_\_

Is the basement fully or partially finished? \_\_\_\_\_

\_\_\_\_\_

Is the home a single- or two-story structure? \_\_\_\_\_

\_\_\_\_\_

Does the resident live in this house all year round? \_\_\_\_\_

\_\_\_\_\_

If they are seasonal residents, is the home heated throughout the winter? \_\_\_\_\_

Does the property have excessive water demands (i.e. horse farm, extensive irrigation for gardens, commercial use, etc)?

Are there any increased seasonal demands on water use?

Is there a public/community water distribution system in the vicinity of the home? If so, what is the name of the public water supplier?

Is there a water softener or other treatment system installed?

If yes, where is it located and is it easily accessible?

Is your utility room/basement easily accessible (e.g., interior/exterior door access, stairs)?

Are there additional water pipes branching off of the pipe between the well and the house?

Is the well water used for purposes such as watering gardens and/or livestock, in addition to household purposes? Please list these uses.

## **Attachment 4**

### **Ohio Department of Health Permit Application**



County / City	Local Fee	State Fee	Total Fee Owed	Receipt #	Permit #
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## OHIO DEPARTMENT OF HEALTH

# APPLICATION/PERMIT FOR A PRIVATE WATER SYSTEM

**NOTE: Read the application instructions on the next page.**

Complete form as directed. Form may be completed on the computer then printed or printed and completed by pen or typewriter.

### CHECK ALL BOXES, IN THIS SECTION, THAT APPLY TO THE PERMIT REQUEST.

<b>Type of Work:</b> <input type="checkbox"/> New Construction <input type="checkbox"/> Alteration (includes expanding existing systems) <input type="checkbox"/> Emergency Construction <input type="checkbox"/> Sealing Only <input type="checkbox"/> Test Well	<input type="checkbox"/> Replacement System <input type="checkbox"/> Emergency Alteration <input type="checkbox"/> Conversion to a PWS	<b>System will Serve:</b> <input type="checkbox"/> Single family dwelling <input type="checkbox"/> Two or Three family dwelling <input type="checkbox"/> Multiple dwelling units* (includes MHPs / Campgrounds) <input type="checkbox"/> Building*	<b>Type of PWS or Component:</b> <input type="checkbox"/> Well <input type="checkbox"/> Pond* <input type="checkbox"/> Hauled Water Tank <input type="checkbox"/> Continuous Disinfection <input type="checkbox"/> Other _____	<input type="checkbox"/> Spring* <input type="checkbox"/> Cistern*	<b>System being Sealed:</b> <input type="checkbox"/> Well <input type="checkbox"/> Cistern <input type="checkbox"/> Hauled Water Tank <input type="checkbox"/> Pond <input type="checkbox"/> Spring
--	--	--	---	---	--

☐ Public Water Supply is being connected to the residence
 ☐ Geothermal system exists or is planned for this property

**\*NOTE:** If the private water system will serve other than a one, two, or three family dwelling, detailed plans must also be submitted in compliance with rule 3701-28-03 (E) of the Ohio Administrative Code. See site plan addendums for ponds, springs, cisterns, multiple dwelling units, and buildings.

### COMPLETE THE FOLLOWING INFORMATION

Property Street Address or Location (include City and Zip Code)		Parcel # (optional)	Township/City/Village
Owner's Name	Owner Mailing Address (Street #, Street, City, State, Zip Code)		Phone #

☐ Check this box if the Owner and Applicant Information is the same. If checked do not fill in applicant information.

Applicant's Name	Applicant Mailing Address (Street #, Street, City, State, Zip Code)	Phone #
------------------	---	---------

All persons, including homeowners, performing work on a private water system must be registered with the Ohio Department of Health as required in Ohio Administrative Code Rule 3701-28-18(A). If the contractor information is not known at time of application, it must be provided prior to the commencement of work as per the requirements in Ohio Administrative Code Rule 3701-28-03(A)(1).

Private Water Systems Contractor	ODH Registration #	Phone #
Private Water Systems Contractor	ODH Registration #	Phone #
Private Water Systems Contractor	ODH Registration #	Phone #

**Notice to Applicant:** This application will not be processed until the form bears the signature of the applicant and the date (below). This application must be accompanied by the site plan form(s) and the appropriate fee. This application is not approved until it has the date and signature of a registered sanitarian or sanitarian-in training employed by the local board of health.

I, the undersigned, hereby agree to install, construct, develop or alter the private water system named in this permit application in accordance with the attached site plan and all applicable rules governed by Chapter 3701-28 of the Ohio Administrative Code.

I, the undersigned, also understand that the issuance of this permit is conditioned upon the right of the department to enter upon the premises of the private system named in this permit at any reasonable time prior to, during, or after completion of the work specified in this permit for the purpose of determining compliance with Chapter 3701-28 of the Ohio Administrative Code.

I, the undersigned, agree to contact the local health department upon completion of the private water system in order for the local health department to perform the final inspection and collect the water sample.

I, the undersigned, understand that this permit will expire one (1) year from the date approved and all work must be completed by that date.

APPLICANT'S SIGNATURE	DATE OF SIGNATURE
-----------------------	-------------------

**READ THE INSTRUCTIONS ON THE NEXT PAGE, THEN COMPLETE THE SITE PLAN FORM**

County / City

Permit #

### HEALTH DEPARTMENT USE ONLY

This permit is not valid without the sanitarian signature, approval date, and audit number.

**Is a variance being requested prior to the permit being issued?**

☐ Yes If checked yes, complete the variance section on the Administrative Summary.

**APPLICATION APPROVED BY (RS or SIT Only)**

**DATE APPROVED**

*Permit expires one (1) year from this date.*

PLACE AUDIT  
STICKER HERE

**PERMIT EXTENSION**

Approved By

Date Approved

Date Extension Expires

See comments on the Administrative Summary

### APPLICATION INSTRUCTIONS

1. This is a two part form: APPLICATION and SITE PLAN
2. The form may be completed:
  - a. By computer, then printing; or
  - b. By printing the blank document, and filling all information with a typewriter or pen;
3. Contact the Local Health Department for the following information:
  - a. Fee information;
  - b. Site Plan completion information (some local health districts require staff to complete site plans);
  - c. Rule information.
  - d. Registered private water system contractor information.
    - i. A complete list of registered private water system contractors is available on the Ohio Department of Health website at <http://www.odh.ohio.gov/odhPrograms/eh/water/water1.aspx>.
4. The applicant must sign and date the application prior to submitting to the Local Health District.
5. The applicable FEES must accompany all applications when submitting to the Local Health District. Applications will not be processed until all fees have been received by the Local Health District.
6. The Local Health District will review the application and site plan and notify you as to the application's status.
7. Contact the Local Health District if you do not receive information about the application status within fifteen (15) business days of submitting the application.

County / City

Permit #

# OHIO DEPARTMENT OF HEALTH

## APPLICATION/PERMIT FOR A PRIVATE WATER SYSTEM

### SITE PLAN

Property Address

Owner / Applicant

Prepared by

A site plan addendum form will be required in addition to this site plan form if this private water system permit request is being obtained for:

- 1) any private water system servicing greater than a three family dwelling, or a building;
- 2) any private water system servicing a pond, cistern, spring, or private water system located in an area of known flowing well conditions.

**SITE PLAN DRAWING**
☐ Check this box if the drawing is supplied on a separate sheet.

- Clearly indicate the location of all proposed and existing private water systems.
- Clearly indicate all possible sources of contamination from the list to the right, including but not limited to the house, the sewage system and the driveway.
- Clearly indicate the north direction, property lines, roads and road intersections.

**LIST OF POTENTIAL CONTAMINATION SOURCES.**

Write the distance from the proposed private water system location to the source listed below, if applicable. The minimum distance requirements are indicated in ( ) to the right of the source.

**All distances must be specific to the private water system.**

- \_\_\_\_\_ ft House, Building (10ft)
- \_\_\_\_\_ ft Property lines (10 ft)
- \_\_\_\_\_ ft Existing or properly sealed water wells (10 ft)
- \_\_\_\_\_ ft Road right-of-ways and road utility easements (10 ft)
- \_\_\_\_\_ ft Public Roadways (25 ft)
- \_\_\_\_\_ ft Driveway or parking lot (5 ft)
- \_\_\_\_\_ ft Sewer - watertight (10 ft)
- \_\_\_\_\_ ft Sewage tanks, sewage absorption fields and watertight vault privies (50 ft)
- \_\_\_\_\_ ft Leaching privies, leaching pits, dry wells, or drainage wells (100 ft)
- \_\_\_\_\_ ft Unregulated constructed wells or boreholes (50ft)
- \_\_\_\_\_ ft Geothermal systems (50 ft)
- \_\_\_\_\_ ft Streams, lakes, ponds (25 ft)
- \_\_\_\_\_ ft Storm water and other ditches with intermittent water flow (15 ft)
- \_\_\_\_\_ ft Natural gas or propane tanks (20 ft)
- \_\_\_\_\_ ft Fuel oil, diesel, chemical, gasoline and other petroleum liquid tanks (50 ft)
- \_\_\_\_\_ ft Oil and gas wells (100 ft)
- \_\_\_\_\_ ft Landfills (1000 ft)
- \_\_\_\_\_ ft Construction and demolition debris facility (500 ft)
- \_\_\_\_\_ ft Agricultural manure ponds, lagoons, or piles (50-300 ft)
- \_\_\_\_\_ ft Other: \_\_\_\_\_

Please refer to OAC 3701-28-07 for additional required distances.

Comments

## **Attachment 5**

### **Ohio Department of Health Disinfection Procedures**



# Ohio Department of Health Bureau of Environmental Health

## Disinfection Fact Sheet for Drinking Water Wells *Simple procedures for homeowners.*

Bob Taft, Governor  
J. Nick Baird, MD, Director of Health

"To improve and protect the health of all Ohioans"

The following well disinfection procedures may be carried out by homeowners on an existing well. Disinfection is performed after the well is sampled and found to be total coliform or e-coli positive, or when the presence of non-pathogenic bacteria such as slime formers or iron bacteria have been identified. A total coliform bacteria sample is used as an indicator of unsanitary conditions. If total coliform or e-coli positive samples persist after disinfection, then an experienced registered private water systems contractor should be contacted to professionally disinfect your well using superchlorination methods and the construction of the well should be evaluated. (See Superchlorination Disinfection Fact Sheet)

### **Step 1. Pump the Well**

Turn on as many faucets in the home as possible, and run the water for several hours (24 hours if possible) to waste in the yard or other drainageway. The well should be heavily pumped to completely flush the well borehole and the geologic formation that supplies the water. Do **not** discharge this water to the septic system, as it will cause the system to become overloaded.

### **Step 2. Determine the total volume of water stored in your well.**

The volume of chlorine used for disinfection depends on the total volume of water stored in the well casing and the distribution lines (plumbing). The total volume of water stored in the well casing can be calculated based on the total depth of the well and the static water level in the well. Information on the total depth and static water level (water level under non-pumping conditions) of the well can be obtained from the well log.

The well log is a record of the construction, depth and geologic materials encountered in the well and is filled out by the water well driller. After the well is drilled, copies of the well log are filed with the Ohio Department of Natural Resources, Division of Water, the local county health department, and a copy is provided to the well owner. If you do not have a copy of your well log, search their website at [www.dnr.state.oh.us/water/maptechs/wellogs/app/](http://www.dnr.state.oh.us/water/maptechs/wellogs/app/), or contact ODNR, Division of Water at (614) 265-6740. The total depth of the well will be recorded at the right side of the well log, and the static water level will be recorded under the well test section of the well log. Subtract the static water level from the total depth of the well to determine the total feet of water held in the well casing.

The image shows a sample 'WELL LOG AND DRILLING REPORT' form. It contains various fields for well identification, location, and construction details. A key section is the 'Geologic Data' table, which records the depth and type of materials encountered during drilling. Another section is the 'Well Test' table, which records pumping rates and water levels. The form also includes a 'Remarks' section for additional information.

Geologic Data	
Depth (ft)	Material
0 - 2	Gravel
2 - 5	Gravel
5 - 10	Gravel
10 - 15	Gravel
15 - 20	Gravel
20 - 25	Gravel
25 - 30	Gravel
30 - 35	Gravel
35 - 40	Gravel
40 - 45	Gravel
45 - 50	Gravel
50 - 55	Gravel
55 - 60	Gravel
60 - 65	Gravel
65 - 70	Gravel
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795 - 800	Gravel
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945 - 950	Gravel
950 - 955	Gravel
955 - 960	Gravel
960 - 965	Gravel
965 - 970	Gravel
970 - 975	Gravel
975 - 980	Gravel
980 - 985	Gravel
985 - 990	Gravel
990 - 995	Gravel
995 - 1000	Gravel

### **Step 3. Determine the volume of chlorine to use for disinfection**

Once the total feet of water stored in the casing is known, then the volume of water stored in the casing can be calculated based on Table 1. Take the total feet of water stored in the well, and based on the well diameter, multiply the total feet times the appropriate gallons per foot of water.

*Example:*

*Total well depth is 100 feet, static water level is 60 feet, well casing diameter is 5 inches.*

*100 feet – 60 feet (static water level) = 40 feet of water in the well casing*

*From Table 1, a 5 inch casing has 1 gallon stored per foot.*

*40 feet of water in the casing x 1 gallon per foot = 40 gallons volume of water in casing*

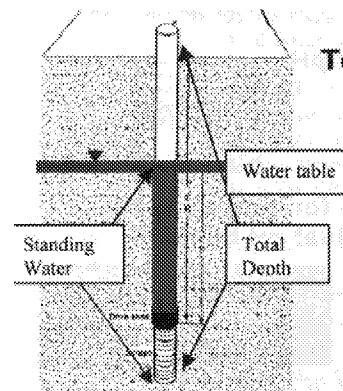


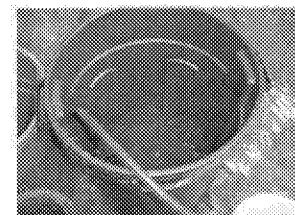
Table 1. Volume of water in well	
Diameter of well (inches)	Gallons per foot of water
3	0.37
4	0.65
5	1.0
6	1.5
8	2.6

The total volume of chlorine to be used for disinfection can be calculated based on the Table 2. For the example cited above (40 gallons of water in the well casing), use approximately one-half of the amount of chlorine necessary to disinfect 100 gallons.

Table 2. Amount of chlorine added to 100 gallons of water for disinfection			
Chlorine concentration (parts per million)	Gallons of 5.25% sodium hypochlorite - liquid bleach	Pounds of dry calcium hypochlorite	Minimum contact time
250	0.5 gallons	0.38	8 hours
500 ppm	1 gallons	0.75 pounds	8 hours

If the total volume of water stored in the well casing is unknown then add two gallons of fresh 5.25 % unscented laundry bleach, also called sodium hypochlorite, to five gallons of water. Mix the solution in a new clean garbage can, or clean a garbage can and line it with a new plastic garbage bag. Laundry bleach loses its' effectiveness the longer it sits on the shelf in the store or in your home. Solid chlorine pellets, which are 65% to 70% calcium hypochlorite, should be dissolved in a five gallon bucket of water.

Be aware that some solid chlorine products used for swimming pools may have additional chemicals, such as algacides, in them and should not be used for well disinfection. Place the can next to the well to pour the solution or siphon the chlorine solution from the can to the well.



### **Step 4. Add the chlorine solution.**

Remove the cap from the well. Pour the chlorine solution directly into the well.

### **Step 5. Add Vinegar.**

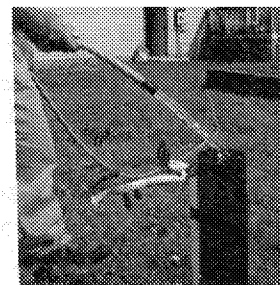
Add 1 quart of white vinegar to a five gallon bucket of water for each 100 gallons of water stored in the well. If the total amount of water stored in the well is unknown, add 2 quarts of vinegar. Add this solution to the well.



### **Step 6. Flush and re-circulate.**

With a garden hose, re-circulate this solution back into the well washing down the sides of the casing for approximately ten minutes. Debris may begin to slough off the side of the casing, and iron or manganese in the water may begin to turn solid as the chlorine reacts with the minerals.

Turn on **all** faucets connected from the well throughout the house and outside the house, including the hot water faucets. Make sure to turn on faucets that rarely or never get used, especially yard hydrants and outside spigots. Remember to run water into the washing machine and flush all toilets. Run the water until the chlorine smell is detected. Bypass all water treatment units during the chlorination process to avoid damage to the resin bed. The resin bed of the water softener can provide a place for bacteria to grow, and must be chlorinated at lower concentrations. The water softener should be disinfected separately using  $\frac{1}{4}$  to  $\frac{1}{2}$  cup of chlorine bleach placed into the small fill tube in the large brine tank followed by a manual recharge. Remove and discard any carbon filters or cartridge filter elements and thoroughly clean the inside of the filter housing.



### **Step 7. Maintain sufficient contact time.**

Once the odor of chlorine is detected in all water lines, shut off the faucets and let the water sit in the plumbing for at least 24 hours.

### **Step 8. Flush the chlorine from the water system.**

After 24 hours have elapsed, run the water to waste until the entire odor of chlorine is gone. This will take a while depending on the volume of the well and the plumbing. Do **not** run the water into your septic system as this will cause the system to become overloaded.

### **Step 9. Retest the Well for Total Coliform**

Wait a few days, then contact the local health district to have another sample collected for total coliform bacteria. Make sure that the water is checked for chlorine before collecting the water sample. If there is any indication of chlorine in the water, the sample should not be collected. This helps avoid getting an indication of a safe sample that may be due only to the continuing activity of leftover chlorine and may not reflect the true condition of the water. Do not replace carbon filters or filter elements until a total coliform negative sample has been achieved.

**What if the well tests positive for total coliform after disinfection?**

There are many instances where the previously described disinfection procedures may not work in making a water well bacteria free. In some cases the pH of the water may need further adjustment in order to get the optimum disinfection from the added chlorine, or superchlorination procedures may be required. The well casing may also need a thorough scrubbing or cleaning to remove non-pathogenic slime forming or iron bacteria that can build up on the well casing and borehole walls. Removal of this type of bacteria often requires the use of specially formulated well cleaning products and drilling equipment and is best performed by a registered contractor. If total coliform or e-coli bacteria persist in water samples then contact an experienced registered private water systems contractor to professionally disinfect your well. Contact your local health district when you experience any problems with your well or for assistance.

The Ohio Department of Health registers and bonds private water systems contractors. Please contact your local health district or check <http://www.odh.state.oh.us/ODHPrograms/WATER/water1.htm> for the most current list of registered contractors.

Residential Water and Sewage Program  
Bureau of Environmental Health  
Ohio Department of Health  
246 N. High St.  
Columbus, Ohio 43266-0118  
(614)466-1390  
[www.odh.state.oh.us](http://www.odh.state.oh.us)

August 2003



## **Attachment 6**

### **Public Water Connection Agreement**

### Public Water Connection Agreement

I (we), \_\_\_\_\_, the owner(s) (hereafter referred to collectively as Owner of the parcel of real estate and improvements located at \_\_\_\_\_

\_\_\_\_\_ (hereafter referred to as the Property), consent to have The Chemours Company (hereinafter referred to as Chemours) and its designated contractor(s) enter on to the Property to connect the Property to the \_\_\_\_\_ public water supply system ("\_\_\_\_\_"). In 2009, the United States Environmental Protection Agency (EPA) and E. I. du Pont de Nemours and Company (DuPont) entered into an Order on Consent (the 2009 Consent Order) regarding the presence of perfluorooctanoic acid (PFOA) in certain drinking water supplies at levels exceeding 0.40 micrograms per liter (ug/L). On May 19, 2016, EPA issued a Lifetime Health Advisory value for PFOA of 0.07 ug/L based on information in a document entitled *Health Effects Support Document for Perfluorooctanoic Acid (PFOA)*. EPA, DuPont and Chemours have subsequently amended the 2009 Consent Order through a document referred to as the First Amendment to Order on Consent. Based on the new Lifetime Health Advisory value and pursuant to the 2009 Consent Order as amended, Chemours is now offering installation of granular activated carbon treatment, or an EPA-approved alternative, if the measured concentration of PFOA in the drinking water from a private water system is greater than 0.07 ug/L. This Agreement provides for connection of the private water system at the Property to a public water system that contains PFOA at concentrations equal to or less than 0.07 ug/L as a form of alternative treatment. Owner(s)' consent for such connection is contingent upon the conditions provided below. Fulfillment by Chemours of its obligations specified in this Agreement is also contingent upon the conditions below.

**Condition 1.** Chemours will provide at its cost all construction, labor, and material necessary to connect the Property to \_\_\_\_\_, including tapping fees and installation fees.

**Condition 2.** Chemours will provide at its cost all labor and materials necessary to restore any damage to the Property that results from Chemours' work connecting the Property to \_\_\_\_\_. Restoration shall consist of returning all improvements on the Property damaged by Chemours during the work to connect the Property to \_\_\_\_\_ to as near as possible the condition existing on the date that such activities begin. Owner agrees that where residential grass is damaged as part of the construction work, reseedling of the damaged area is acceptable.

**Condition 3.** Chemours will be responsible for personal injury or property damage caused by negligence in the performance of the work described in Conditions 1 and 2. Chemours will not be responsible for any damage caused by Owner's negligence or other misconduct.

**Condition 4.** Chemours and its contractor(s) may have access to the Property during normal business hours (Monday through Friday between 8:00 a.m. and 5:00 p.m.) to perform the connection work and any necessary restoration activities. When Chemours must enter the primary living space, it will seek with Owner to establish a mutually agreeable time to do so.

**Condition 5.** Owner grants Chemours the authority to obtain at its cost all necessary federal, state, and county permits for completion of the work described above on behalf of Owner as required.

**Condition 6.** Chemours' designated contractor(s) will be licensed, bonded, and insured.

Owner(s)' consent is provided on this date, \_\_\_\_\_ by:

\_\_\_\_\_  
Owner(s)' Signature                      and \_\_\_\_\_  
Owner(s)' Signature

\_\_\_\_\_  
Owners(s)' Printed Name(s)                      and \_\_\_\_\_  
Owners(s)' Printed Name(s)

Agreed to by Chemours:

Andrew S. Hartten, Principal Remediation Project Manager, representing The Chemours Company  
Printed Name, Title

\_\_\_\_\_  
Chemours Signature

\_\_\_\_\_  
Date